Amendments to the Claims:

1. (Cancelled)

2. (Currently Amended) [[The]] A method ~~according to claim 1, wherein~~ of visualizing a multi-dimensional data set, the method comprising:

with one or more processors, performing a segmentation of a structure in the data set; and

with one or more processors, performing a visualization of the data set, the visualization [[is]] being performed on the basis of visualization parameters comprising [[the]] a projection direction, [[;]] ~~wherein~~ the visualization parameters [[are]] being determined on the basis of at least one of the segmentation and a low-level analysis of the data set[[;]] and ~~wherein~~ the visualization parameters [[are]] being selected from ~~the group consisting of~~ a relative position of the structure, a direction relative to the structure, a distance between the structure and an object of interest, a motion estimation, and a motion compensation;

wherein a projection direction of the visualization is determined on the basis of the structure.

3. (Currently Amended) The method according to ~~claim 1~~ claim 2, wherein the structure is one of a biopsy needle and an endoscope probe;

wherein a first projection of the data set is performed in a direction of a longitudinal axis of the structure, resulting in a first image with an image surface area perpendicular to the direction of the longitudinal axis; and

wherein a second projection of the data set is performed in a direction perpendicular to the longitudinal axis of the structure, resulting in a second image comprising the structure.

4. (Currently Amended) The method according to claim 3, wherein at least one of the visualization parameters is displayed on a display device during visualization of the data set.

5. (Currently Amended) The method according to ~~claim 1~~ claim 2, further comprising ~~the step of~~:

varying a rendering method in an image resulting from the visualization of the data set;

wherein the variation of the rendering method causes a non-uniform quality of the image.

6. (Original) The method according to claim 5, wherein the variation of the rendering method comprises a variation of a sampling rate in the image; and

wherein the variation of the rendering method is performed on the basis of the visualization parameters.

7. (Currently Amended) The method according to ~~claim 1~~ claim 2, wherein the segmentation is performed on the basis of one of a Hough Transform and a determination of active localizers.

8. (Currently Amended) The method according to ~~claim 1~~ claim 2, wherein the data set is acquired by means of one of an ultrasound imaging system, a CT imaging system, and an MR imaging system.

9. (Cancelled)

10. (Currently Amended) [[The]] An image processing device ~~according to claim 9, wherein the structure is~~ for visualizing a multi-dimensional data set, the image processing device comprising:

a memory for storing the data set;

an image processor adapted for performing the following operations:

loading the data set,

performing a segmentation of a biopsy needle in the data set, and

performing a [[;]] ~~wherein the~~ visualization ~~is performed~~ of the data set on the basis of visualization parameters, [[;]] ~~wherein~~ the visualization parameters [[are]] being determined on the basis of at least one of the segmentation and a low-level analysis of the data set[[;]] and ~~wherein~~ the visualization parameters [[are]] being selected from the group ~~consisting of~~ including a relative position of the structure, a direction relative to the structure, a distance between the structure and an object of interest, and a motion estimation[[,]];

wherein a first projection of the data set is performed in a direction of a longitudinal axis of the biopsy needle, resulting in a first image with an image surface area perpendicular to the direction of the longitudinal axis; and

wherein a second projection of the data set is performed in a direction perpendicular to the longitudinal axis of the biopsy needle, resulting in a second image comprising the biopsy needle.

11. (Cancelled)

12. (Currently Amended) [[The]] An imaging system ~~according to claim 11, wherein the structure is a biopsy needle; wherein the visualization is performed on the basis of visualization parameters; wherein the visualization parameters are determined on the basis of at least one of the segmentation and a low-level analysis of the data set; and wherein the visualization parameters are selected from the group consisting of a relative position of the structure, a direction relative to the structure, a distance between the structure and an object of interest, and a motion estimation, wherein~~ comprising:

a memory which stores a multi-dimensional data set;

an image processor which performs a visualization of the data set, the image processor being programmed to:

load the data set,

segment an inserted end of a surgical instrument in the data set, and

perform a visualization of the data set including performing a first projection of the data set ~~is performed~~ in a direction of a longitudinal axis of the ~~biopsy needle~~ inserted end of the surgical instrument, resulting in a first image with an image surface area perpendicular to the direction of the longitudinal axis[[;]] and ~~wherein~~ performing a second projection of the data set ~~is performed~~ in a direction perpendicular to the longitudinal axis of the ~~biopsy needle~~ inserted end of the surgical instrument, resulting in a second image ~~comprising the biopsy needle~~ including the inserted end of the surgical instrument.

13. (Currently Amended) The imaging system according to ~~claim 11~~ claim 12, wherein the imaging system is one of an MR imaging system, a CT imaging system, and an ultrasound imaging system.

14. (Currently Amended) A tangible computer readable medium carrying a computer program for ~~performing~~ controlling one or more processors to perform a visualization of a multi-dimensional data set[[,]] ~~wherein the computer program causes an image processor to perform the following operation when the computer program is executed on the image processor~~ including:

loading the data set;

performing a segmentation of a structure in the data set;

determining visualization parameters on the basis of at least one of the segmentation and low-level analysis of the data set, the visualization parameters including one or more of a relative position of the structure, a direction relative to the structure, a distance between the structure and an object of interest, a motion estimation, and a motion compensation; and

performing a visualization of the data set[[;]] ~~wherein~~ including projecting the data set in a projection direction [[of]] based on the visualization ~~is determined on the basis of the structure~~ parameters.

15. (New) The imaging system according to claim 12, wherein the visualization is performed on the basis of visualization parameters determined on the basis of at least one of the segmentation and a low-level analysis of the data set, the visualization parameters including a relative position of the inserted end of the surgical instrument, a direction relative to the inserted end of the surgical instrument, a distance between the inserted end of the surgical instrument and an object of interst, a motion estimation, and a motion compensation.

16. (New) The imaging system according to claim 12, wherein the surgical instrument is one of a biopsy needle and an endoscopic probe.

17. (New) The computer readable medium according to claim 14, wherein a first projection of the data set is performed in a direction of a longitudinal axis of the structure, resulting in a first image with an image surface area perpendicular to the direction of the longitudinal axis; and

wherein a second projection of the data set is performed in a direction perpendicular to the longitudinal axis of the structure, resulting in a second image comprising the structure.

18. (New) An imaging system comprising:

an imaging device that generates image data during an interventional procedure in which an interventional structure is inserted in an imaged object;

an image processor programmed to:

segment the image data,

analyze the segmented image data to determine one or more viewing directions based on the interventional structure in the segmented image data without operator input,

project the segmented data set along the one or more viewing directions; and

a display device on which images of the one or more projected segmented data sets are displayed.

19. (New) The imaging system according to claim 18, wherein the projection directions are based on one or more of a relative position of the interventional instrument, a direction relative to the interventional instrument, a distance between the interventional instrument and a target point in the object, a motion estimation, and a motion compensation.

20. (New) The imaging system according to claim 18, wherein the interventional instrument is one of a biopsy needle and an endoscope probe, and wherein the image processor is further programmed to project the segmented data set along two viewing directions, a first of the viewing directions being in a direction of a longitudinal axis of the biopsy needle or surgical probe and the displayed projected segmentation data representing an image perpendicular to the direction of the longitudinal axis and along a second direction which is perpendicular to the longitudinal axis with the segmented data set projected in the second direction including the biopsy needle or endoscope probe.